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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/769,832	01/26/2001	Yasuhiro Omura	108455	4433

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OLIFF & BERRIDGE, PLC  
P.O. BOX 19928  
ALEXANDRIA, VA 22320

EXAMINER
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FULLER, RODNEY EVAN

ART UNIT	PAPER NUMBER
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2851

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/769,832

Applicant(s)

OMURA ET AL.

Examiner

Rodney E. Fuller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-19, 21-48 and 67-84 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-19, 21-48 and 67-69 is/are allowed.
- 6) ☒ Claim(s) 70-84 is/are rejected.
- 7) ☒ Claim(s) 71-77 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

RODNEY FULLER  
PRIMARY EXAMINER

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/27/2005.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on June 27, 2005 has been entered.

### ***Remarks***

2. The examiner acknowledges the addition of claims 70-84. Claims 1-19, 21-48, 67-84 are pending. Claims 1-19, 21-48 and 67-69 were previously allowed in the Notice of Allowability mailed April 14, 2005.

### ***Claim Objections***

3. Claims 71-77 are objected to because of the following items:
- a. Claim 71 sets forth the limitation "wherein the movable lens is movable in the optical axis direction". Claim 70 sets forth three different optical axes. Thus, it is unclear to which optical axis direction claim 71 is referring.
  - b. Claims 72-77 depend from claim 71 and therefore include the deficiencies of claim 71.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 70, 71 and 73-84 are rejected under 35 U.S.C. 102(b) as being anticipated by Sheets, et al. (US 5,559,629).

Regarding claim 70, Sheets discloses "a first lens (Fig. 1, ref.# 19) having a first optical axis (vertical direction in figure); a combination of a concave mirror (Fig. 1, ref.# 28) and a second lens (Fig. 1, ref.# 25), the combination having a second optical axis (horizontal direction in figure); a third lens (Fig. 1, ref.# 39) having a third optical axis (vertical direction in figure); a first reflection plane (Fig. 1, ref.#33) that is arranged in an optical path between the first lens (Fig. 1, ref.# 19) and the combination (Fig. 1, ref.# 25, 28); and a second reflection plane (Fig. 1, ref.# 37) that is arranged in an optical path between the combination (Fig. 1, ref.# 25, 28) and the third lens (Fig. 1, ref.# 38), wherein an intersection line of an extension plane of the first reflection plane and an extension plane of the second reflection plane is set up so that the first optical axis, the second optical axis and the third optical axis intersect at one point (apparent from figure

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1), and wherein at least one of the first lens and the third lens is movable (column 7, lines 35-36)."

Regarding claim 71, Sheets discloses "wherein the movable lens is movable in the optical axis direction (column 7, lines 34-37; vertical direction in figure)."

Regarding claim 73, Sheets discloses "where intermediate images of the first surface are formed in an optical path between the first reflection plane and the combination, and in an optical path between the combination and the second reflection plane." (image plane shown in Figure 1 as intersecting lines between element # 25 and 25)

Regarding claim 74, Sheets discloses "a group of lenses (Fig. 1, ref.# 19) that is arranged in an optical path between the first surface and the first reflection plane, and another group of lenses (Fig. 1, ref.# 38, 39) that is arranged in an optical path between the second reflection plane and the second surface."

Regarding claim 75, Sheets discloses "another lens (Fig. 1, ref.# 24) that is arranged within the combination."

Regarding claim 77, Sheets discloses "wherein the second lens is a negative lens." (column 4, lines 16-19)

Regarding claim 77, Sheets discloses "wherein the second lens is a meniscus lens." (column 4, lines 16-23)

Regarding claim 78, Sheets discloses "wherein a refractive index of the first lens and a refractive index of the third lens are the same." (column 6, lines 13-14)

Regarding claim 79, Sheets discloses "a monolithic member (Fig. 1, ref.# 14), wherein the first and second reflection planes are formed on the monolithic member."

Regarding claim 80, Sheets discloses "wherein the first optical axis and the third optical axis are coaxial." (both are in vertical direction in Figure 1)

Regarding claim 81, Sheets discloses "wherein the second optical axis is perpendicular to the first and the third optical axes." (2<sup>nd</sup> axis is horizontal in Figure 1 and 1<sup>st</sup> / 3<sup>rd</sup> axis are vertical in Figure 1)

Regarding claim 82, Sheets discloses "wherein the catadioptric optical system is a bi-telecentric optical system." (shown by ray diagram of Figure 1)

Regarding claim 83, Sheets discloses "wherein the catadioptric optical system forms the image of the first surface onto an area of the second surface (area near ref.# 21 and ref.# 39), and wherein the area is located off the third optical axis (horizontal direction in figure 1)."

Regarding claim 84, Sheets discloses "wherein the catadioptric optical system has a unit magnification." (title and column 1, line 7)

6. Claims 70-72, 80, 81 and 84 are rejected under 35 U.S.C. 102(e) as being anticipated by Shafer, et al. (US 6,512,631).

Regarding claim 70, Shafer discloses "a first lens (Fig. 3, ref.# 301) having a first optical axis (horizontal direction in Figure 3); a combination of a concave mirror and a second lens (Fig. 3, ref.# 306; column 10, lines 57-59), the combination having a second optical axis (vertical direction in Figure 3); a third lens (Fig. 3, ref.# 307, 308)

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having a third optical axis (horizontal direction in Figure 3); a first reflection plane (Fig. 3, ref.# 305a) that is arranged in an optical path between the first lens and the combination; and a second reflection plane (Fig. 3, ref.# 305b) that is arranged in an optical path between the combination and the third lens, wherein an intersection line of an extension plane of the first reflection plane and an extension plane of the second reflection plane is set up so that the first optical axis, the second optical axis and the third optical axis intersect at one point (apparent from Figure 3) , and wherein at least one of the first lens and the third lens is movable .”

Regarding claim 71, Shafer discloses “wherein the movable lens is movable in the optical axis direction.” (column 11, lines 7 states that lens group 308 is a focusing group and thus would be movable in the optical axis direction)

Regarding claim 72, Shafer discloses “wherein the movable lens is tiltable.” (column 16, line 20)

Regarding claim 80, Shafer discloses “wherein the first optical axis and the third optical axis are coaxial.” (The 1<sup>st</sup> and 3<sup>rd</sup> optical axis are in the horizontal direction of Figure 3).

Regarding claim 81, Shafer discloses “wherein the second optical axis is perpendicular to the first and the third optical axes.” (The 2<sup>nd</sup> optical axis is in the vertical direction of Figure 3.)

Regarding claim 84, Shafer discloses “wherein the catadioptric optical system has a unit magnification.” (column 11, line 2)

***Allowable Subject Matter***

7. Claims 1-19, 21-48 and 67-69 are allowed.
8. Claims 1-19, 21-48 and 67-69 were previously allowed in the Notice of Allowability mailed April 14, 2005.

***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney E. Fuller whose telephone number is 571-272-2118. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Rodney E Fuller  
Primary Examiner  
Art Unit 2851



December 19, 2005